THE FARMER & GARDENER

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TUESDAY, BALTIMORE: OCTOBER 10, 1837.

LARGE BEETS.

We saw a few days since, a beet of the blood red variety, which was raised by Mr. Nathan Harrison of this city; it measured 26¾ inches around the girth, and weighed 14 lbs. An acre of land planted in rows two feet apart, the beets 1 foot asunder, is capable of raising, according to the weight of the above beet, 304,920 lbs. which is equal to 152 tons, or 5082 bushels of beets.

We also understand, that Gen. Chambers, of Kent county, Md., raised a sugar beet the present year, which weighed 18 lbs.: an acre of *such* beets would be equal to 392,040 lbs.—or, 196 tons—which in bushels would be 6534.

Mr. *Pugh*, of Ohio, has raised this year a sugar beet measuring 30 inches and weighing 22 pounds. An acre of such beets would be equal to 479,160 lbs., which is 239 tons, or 7986 bushels.

We do not wish to favor the opinion that either of these quantities could be raised from an acre; but here are three beets raised at three remote points, making an average of 18 pounds. Now suppose we assume an average of 5 pounds for each beet in an acre, and it will give us 54 tons, or 1815 bushels, which at a bushel a day for each cow, would carry *twelve* through five months of winter in good heart, and add two-thirds to the quantity of butter and milk they would yield.

WINTER CATTLE FEED.

The indifference which is manifested in every direction of our country towards procuring a supply of succulent food for milch cows during winter, is as cruel as it is impolitic. Without such food to be substituted for the herbage of pastures, it is as impossible that cows can be kept in good order as that they can be kept profitably to their milk upon dry food. Say what we may, the cow that keeps well to the pail during winter must be supplied with *such* food as yields succulent matter bountifully;—for without she be so provided, it is utterly impossible that the milk-vessels can *secrete* milk, and for the very obvious reason that they must have something to extract it from. We have often seen a farmer who, with half a dozen cows to the pail, in winter, did not make more butter and cream than supplied his own table, whereas he ought to have been able, in addition to domestic consumption, to have sent at least 20 lbs. per week to market. If this were an isolated case it would not strike us with wonder; but from its almost universal prevalence, it is at once a subject of regret and mortification—regret that the claims of self-interest and humanity are so shamefully neglected—and mortification, that so little regard is paid to a branch of husbandry so intimately connected with human comfort.

With these introductory remarks let us say what are, in our opinion, the best feed for cattle in winter. It is *Mangel Wurtzel*, *Sugar beet*, *Ruta baga*, and *Pumpkins*. Each of these may, by proper care, be provided in ample quantities, without materially interfering with the other farming operations. A single acre planted in *Mangel Wurzel*, or *Sugar beets*, in rows 2 feet apart, the plants 1 foot asunder, supposing that the beets average 3lbs. a piece, which is a very moderate average, is capable of yielding 1089 bushels, which at the rate of a bushel a day to *each* cow, would last 7 cows from the 1st of December till the first of May, and if they get but half a bushel a day each, the product of an acre would keep 14 cows in food during the time named. Beets every one know how to cultivate—to wit, that they are to be planted in good deeply ploughed rich loam, previously well manured; that when the beets come up that they be thinned, cleaned of weeds, and subsequently receive three hoeings and cleanings. This is not more trouble than ought to be devoted to either the culture of corn or potatoes; but how different is the result of product. Of all the articles named by us as proper for winter food, we would prefer the two varieties of beets; but we think that every judicious farmer will at once see the propriety of providing some of all, as there is nothing which so tends to keep cattle, in winter, to their appetites, as frequent changes of food; we have frequently seen them reject the same kind of food one day that they had eaten with avidity the previous one, and after an interval of a few days feeding on something else, return with renewed vigor of appetite to that which only a few days before they had loathed.

The following table which we have prepared with care, will shew the yield of an acre of beets at the several averages of 3 lbs. 4 lbs. 5 lbs. 6 lbs. and 7 lbs. as the supposed weight of the beets, which averages we think low, as the highest is not one-third the weight of beets raised by Mr. Pugh of Ohio, the present season. It will also show the number of cows that an acre of ground will sustain for five months during winter, say from the 1st of December till the 1st of May, at which latter period, the grass will have been so far advanced as to afford a substitute for root-feeding:

Width of Rows.	Dista. of plants a part.	No. of plants on an acre.	Average weight of Beets.	Product of an acre in pounds	Product in tons.	Product in bushels	No. of Cows which may be fed at a bush. a day, 5 mont.	No. of Cows which may be fed at ½ bush. a day, 5 mont.
2 feet	1 foot	21,780	3 lbs.	65,340	32	1,039	7	14
"	"	21,780	4 "	87,120	43	1,452	9	18
"	"	21,780	5 "	108,900	54	1,815	12	24
"	"	21,780	6 "	130,680	65	2,178	14	28
"	"	21,780	7 "	152,460	76	2,541	16	33

Now we would respectfully ask if these *averages* are not *low enough*, and if they be so, and we think they are, we would ask, if an acre of ground

could be put in any thing else that would yield so much solid and nutritious food as either Mangel Wurtzel or Sugar Beet? We unhesitatingly say so, and defy contradiction. And it is greatly in favor of these two varieties of beets, that horses as well as cattle feed upon them not only with avidity, but with decided advantage to health and condition. Why then should farmers hesitate with respect to the propriety of their culture.—Let them, if they choose not to go largely into their growth: begin on a small scale, say half an acre or a whole one, and we will risk the assertion, that they will never omit to raise them again, provided they do these roots justice in their culture; for there is no food which can be given to a cow that contributes so much towards increasing the quantity and quality of both milk and butter.

SILK IN FLORIDA.

A correspondent of the "*Silk Culturist*" informs the editor of that ably conducted paper, that Mr. Gould of St. Augustine, East Florida, has made some excellent silk the present season, from the foliage of Morus Multicaulis. The second crop from eggs of the one crop worm had already on the 20th of July, wound up and produced cocoons larger than the first.

Frost.—The *Lynchburg Virginian*, of the 28th ult., has the following paragraph, from which it would appear that the growing crops of *Tobacco*, have suffered much, a circumstance which every friend of the South will deeply regret, as to many parts of it, it is a most important staple:

"We had severe frosts on Saturday and Sunday nights last. The growing crop of Tobacco, in some neighborhoods from which we have heard, suffered considerably, particularly on the lower grounds."

The *Northampton* (*Mass.*) *Courier* has the following paragraph:

"☞ We had some savage Frosts in this vicinity last week. They cut down vegetation like a "*meat-axe*."

By the subjoined, we are rejoiced to learn that "*little*" Delaware, that gallant member of the sisterhood, is out of the woods:

"*Buckwheat.*—Such of our readers as are interested in the condition of the crops, will be gratified to learn that the present prospect of an abundant crop of buckwheat, is very encouraging. in some parts of the country large quantities have been sown, and the season has been so favorable, that it yields most abundantly, and is entirely free from danger from frost."—*Delaware Gazette.*

Great Yield.—Last spring Mr. Benj. Leach, of Calvert County, Md. having ploughed up a wheat field in consequence of its unpromising appearance, sowed in it one bushel and a half of oats. A few days ago he caused the crop to be thrashed out, and found that the yield was one hundred and forty-nine bushels and a half.

[The above we copy from the New-York Star, though not original there, and we copy it to say that *paragraphs* written with so much looseness do infinite mischief by infusing unbelief into the minds of readers. A bushel and a half of oats will sow less than an acre of ground, and it must be obvious to all that that quantity of ground cannot yield a moiety of the quantity stated.—Why then tax credulilty to such an illimitable extent?—*Ed. Farmer and Gardener.*]

Fine Prospect for Buckwheat Cakes.—We copy the following agreeable and authentic announcement from our cotemporary and neighbor, the Poughkeepsie Eagle of Saturday:

"It will doubtless be a gratification to all interested in the situation of the crops, to learn that the buckwheat crop in this county is the largest, by four fold or more, that has been raised in twenty years. Large quantities have been sown, and the season has been so favorable that it yields most abundantly, and is entirely free from danger from frost."

[As a lover of "*Buckwheat Cakes*," we can but express our hope that the *frost* may not yet *nip* those delightful anticipations of the Poughkeepsie Eagle.—*Ed. Farmer and Gardener.*]

FACTS RELATING TO THE SILK CULTURE.

EDITORAL CORRESPONDENCE OF THE "SILK CULTURIST."

BLUE ROCK, Ohio, Aug. 17, 1837.

F. G. COMSTOCK, Esq.

DEAR SIR,

If I forget not, I promised you an account of my experiments in the silk business, this season, and a specimen of my silk. I am now prepared to fulfil this promise, but from the new regulations of the Post-master General, I prefer sending the specimen by the first private opportunity.

I have succeeded, even better than I expected. My fifteen hundred worms proved to be eight or ten thousand, all of which, except a few that the mice destroyed, spun good cocoons, although they were purposely exposed to the changes of an uncommonly variable season; the range of the thermometer, in the room in which they were kept, being from 52 to 87 degrees, Farenheit's scale.—The windows were closed during their whole existence, and necessity compelled me once or twice in their last stage, to feed them on leaves entirely dry, and yet *not one dozen died of disease.* The cocoons were of good size, and weight, three hundred good ones making a pound; and some of them which I have reeled, yielded near forty per cent. of silk, of a fine, soft, and lustrous quality, equalling, when placed in the sun's rays, the brilliancy of polished gold. This result has convinced me of the entire practicability of the silk enterprise, and has also dissipated much of the scepticism of my neighbors, though some still persist, (in spite of experimental demonstration to the contrary,) in placing it on a par with the tobacco mania, which raged some few years since in this neighborhood, and which caused considerable loss among some who entered into it without a competent knowledge of its nature.

The result of this experiment leads me to the following conclusions:

1st. That no artificial heat is necessary in our climate, and

2dly. That the worm will feed as well, enjoy as good health, and produce as much, and as fine silk from the native leaf as from the Chinese or Italian, your correspondent Mr. A. David to the contrary notwithstanding.

With respect to the first of these propositions, I will observe: Our summers cannot be too cool, nor can our cocooneries be too much shaded, nor too well ventilated, for the health of the worms and the comfort of the feeder. This remark is certainly true, that more danger is to be apprehended from cold than from heat, and therefore I conclude that the advice which has often been urged is good, that laboratories should be built in the most shaded and airy situations. Keep the worms cool enough, give them room enough, air enough, and food enough, and nothing is to be feared.

With respect to the second position, the result of my experiments is told above. I need therefore, only remark, that with considerable difficulty I obtained a small supply of the Italian leaves which I mixed in equal proportions with the leaves of the Virginia mulberry, (or Morus rubra of the botanists,) and fed with them, and the result was that the Virginia leaves were eaten, not even excepting the stem, while the Italian was almost entirely rejected. Particular care was taken to have this experiment fully tried, and the result could not have arisen from any accidental or extraneous circumstances, but solely from the appetite of the worms. I also mixed with the leaves of the red, an equal weight of the leaves of the Black mulberry, and the former were eaten entirely, while the latter were entirely rejected.—Hence I conclude that the Black or common mulberry, of our northern forests, is worth but little to the silk culturist, while the red, or the mulberry of the latitudes of Virginia, is superior to the Italian, and almost equal to the Chinese tree. This tree, therefore, seems to be worthy the attention of the practical, as well as of the scientific culturist, and in order to elicit an investigation of its true value, I beg leave to make a few remarks upon it.

VIRGINIA MULBERRY.

This noble tree, (the *Morus rubra* of botanists) though found in great abundance in the middle and southern latitudes of the United States, is, as far as my observation and information extends, very seldom seen north of latitude 40; and the few I have seen above this parallel are inferior to those below it, both in the beauty, amount, and size of their foliage, and the magnitude of their

stalks. Between 39 and 40 degrees north, it is found in considerable abundance, and when surrounded by other forest trees, almost vies with the sugar-maple in height—but in open situations its stature is low, and its tendency is to throw out many branches. In its native State, it yields a large quantity of leaves of a bright glossy green, and smooth texture, many of which by actual trial, measure 12 inches in length and 9 in breadth, and weigh a quarter of a pound averdupoise a piece, and I am of opinion that these measures and weights can be much increased by judicious cultivation. This opinion is strengthened by some facts which have come to light in this neighborhood, and is confirmed by the opinions of several scientific and practical orchardists with whom I have conversed, and who have with me examined the tree.

The Morus rubra is a shy bearer, but can easily be propagated by cuttings, layers, and the other approved methods of propagating the Chinese tree. It has been doubted whether this tree will produce its kind from seed. Time will, however, determine this. I am disposed to favor a contrary opinion at present.

Should this species prove to be valuable, it will be a source of almost incalculable profit to the families of the south west. Already acclimated, no danger need be apprehended from the severity of our winters, already in the country, no time need be wasted, nor expense incurred, to introduce it. At all events, it will be valuable for hedging, as it grows with a rapidity and luxuriance far superior to the Italian, and but little, if any inferior to the Chinese tree. One gentleman of this neighbourhood intends planting several thousand next season for fences only.

Another species of mulberry which I have discovered, yields a beautiful leaf, 11 inches long, and 8 wide, but which weighs only half as much as the rubra. It is a very fine and brilliant leaf, with a small lobe or ear on each side, about midway between its widest place and its point, which gives it a peculiar appearance. I know of but one in the neighborhood. The worm is voraciously fond of it, and I am inclined to think it a valuable variety, especially for second crops of worms, as it is much tenderer than any other with which I am acquainted.

Yours, &c.
Respectfully,
S. R. JONES.

—

Saybrook, July 31, 1837.

F. G. Comstock, Esq.

Dear Sir,

I had some conversation with you last fall on the subject of mulberry trees and silk worms. I have this summer fed a few thousand of worms from the trimmings of White mulberry trees, that were planted in the spring of 1836; having never seen a worm or cocoon till those I raised myself. I send you a few for your opinion; 192 will weigh one pound; 205 of those that I have baked weigh one pound; my trees are from 4 to 6 feet high, with from three quarters to one-fourth inch buts.

Yours, respectfully,
WILLIAM WILLARD.

—

Answer by the Editor.—The cocoons are very good ones, and the silk of an excellent quality. Some of the largest are dupions, [double cocoons,] which are of little value on account of the difficulty of reeling them.

—

Burlington, New Jersey, 8 mo. 12th, 1837.

F. G. Comstock,

Respected Friend,

In reading the Culturist, I perceive doubts expressed by some of thy correspondents, as to whether the Morus multicaulis, will withstand the severe frosts of our climate, and a gentleman who very recently conversed with Judges Spencer and Buel of Albany, has just informed me that they rather favor the cultivation of the Morus alba, for a similar reason. Now it appears to me a matter of considerable importance to those who are about to engage in the silk culture, to have this point definitely settled. That the silk made from the Morus multicaulis, is at least equal in quality to that from the Morus alba, seems to be conceded by all who have made the comparison; and that the cost of making it from the former must be much less than from the latter, will be evident to every person who is familiar with the growth and foliage of the two species. The amount of foliage per acre will be much greater from the multicaulis than from the alba; and in consequence of the great difference in the size of the leaves, the expense of gathering food for a given number of worms will not be one third as great from the multicaulis as from the alba—consequently the profits from the culture must be much increased by using the former instead of the latter, provided they will live during our severe winters. Would it not then be well to invite information upon this subject, from correspondents, that all doubts may be speedily removed.

I saw a tree of the Morus multicaulis in March last, in the garden of a gentleman a few miles from this place, that had stood without any protection, the last three winters. The owner informed me that the first winter it was killed down nearly to the surface of the ground, and in the following spring sent up 4 or 5 shoots; since then it has not been injured, and in the summer of 1836 he fed 1000 worms from its foliage, that made large and fine cocoons, yielding nearly half a pound of reeled silk. I obtained about 1000 cuttings from its extensive branches, and they grow well.

Again, the Messrs. Cheney, in this vicinity, have about fifty trees that were raised from layers in 1836, and stood last winter, without protection, in Manchester, Connecticut, and received no injury from the frost. They were alive, and sent out their shoots, this spring, to the very extremity.

There are a few of us here, who have determined to go largely into the silk culture, and are perfectly satisfied that the Morus multicaulis is the proper species. We have nearly or quite 300,000 trees that are growing finely in a light sandy soil; many of them from three and a half to four feet high, at present, and sending out strong side branches.

Very respectfully, thy friend,
SAMUEL R. GUMMERE.

—

By the Editor.—Though we think favorably of the proposition contained in the foregoing letter, and will thankfully receive and cheerfully publish facts and experiments relating to the acclimation of the Morus multicaulis, yet we do not consider it at all necessary to availing ourselves of this, the best of all kinds of the mulberry.

The experiments heretofore made have satisfied us that if the branches are destroyed by the severity of every winter, or to use a homely phrase, cut down every autumn to save their lives, the annual shoots upon an acre of land will yield more value in foliage than can be gathered from the same area covered with the White mulberry of any age whatever.

—

Remarks by the Editor of the Farmer and Gardener.

Mr. *Gideon B. Smith*, the former editor of this paper, who has done more than any other man in America to introduce the culture of this species of Mulberry into our country, has demonstrated by actual experiments that all that is wanting to insure the life of the branches of it, is to cultivate it upon high, sandy soil of moderate fertility.—We have an excellent paper of his on the subject of the mulberry culture generally, and embracing this point in particular, which we shall take pleasure in laying before the public in our next.

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[From the British Farmer's Magazine.]

MANUFACTURE OF BEET-ROOT SUGAR.

Introduction.

We will now proceed to notice the methods by which the greatest quantity, and the best quality of sugar can be obtained from beet root.

Sugar is a component part of this root, and that method of extricating it is to be preferred, which destroys the least portion of it in the course of the operation; for in the present state of the art, it is undeniable that a certain quantity is destroyed.

Most of the beet sugar manufacturers refine their own sugar; a method not approved of by the author. The art of refining is very complex and difficult to manage, and requires a long and intimate acquaintance with practical chemistry. The agricultural manufacturer, therefore, should confine his attention to the making of raw sugar, and that of as good quality as possible, to sell to the refiner. It is only when the making of brown sugar is finished, that refining can begin. Consider, then, the time which must elapse before a manufacturer can realize any profit upon his business; for it will be remembered that the process of refining lasts for six or seven months, or the whole of the season of vegetation. From the moment therefore, that he sows his field, he is but then finishing the manufacture of the preceding crop into brown sugar. Then comes the refining, which does not terminate till six months after; so that he has to wait fourteen or fifteen months before he can begin to sell his sugar, and probably eighteen months before the whole is sold. Add to this a credit of three or four months usually given to the buyers, and it will form a total of twenty-two months, or thereabouts, before he can

expect to make his returns; whereas, if he sells the raw sugar, he will be able to begin to sell in seven or eight months after seed-time, and will have sold the whole in a year after the same seed-time.

Those manufacturers would be more at their ease, as to capital, who would first use a part of their own crops in their manufactory, and would afterwards treat with the little farmers for what they could spare of *their* produce. Thus, those who have not the means of forming an establishment of their own, will yet participate in some of the advantages of beet culture, the pulp of which they can re-purchase of the manufacturers.

I shall next proceed to describe the several operations connected with the manufacturing department, according to the order in which they follow each other.

CHAP. I.

Cleaning the Beet Roots.

When the roots are to be washed, it is not necessary that so much pains should be taken in scraping and cleaning them by hand; but when it is not intended to wash them, the cleaning ought to be particularly attended to. This work is mostly performed by women and children. They are furnished with a sharp knife, two or three inches broad and about ten inches long, with a suitable handle; and thus provided, they seat themselves near the heap of roots to be cleaned, and scrape each root separately, taking especial care not to leave any stones or dirt adhering to its surface. When a root is thought to be too large to enter the rasp properly, it should be cut in two or four pieces by the cleaner, according to its size. This should be done lengthways of the root.

The cleaning should take place in some spot convenient for the rasping mill and presses, and should be large enough to hold a quantity of roots sufficient to supply the manufactory for at least four or five days, and yet leave sufficient room for the cleaners to work in with comfort. After cleaning, the roots are thrown into a small open basket with ears, (like our turnip skeps.) They are then carried by the women to the rasp, where they leave the full baskets and bring back empty ones. Two women well used to the work will clean and carry to the rasp, three or three and a half tons of roots in twelve hours.

The cleaning, of course, diminishes, in some measure, the weight; perhaps about 6 or 7 per cent. on the gross weight of the roots.

CHAP. II.

Washing the Roots.

Washing is not indispensable where proper pains have been taken by the cleaners; neither can it be done in every situation, the quantity of water required being so considerable. A stream of water contiguous to a sugar manufactory would be an important advantage. In general, however, the washing is attended with many difficulties, particularly those arising from frost, which not unfrequently puts a stop to it entirely; and some are disposed to think that it may be dispensed with altogether, by spending a little more time and money about the previous cleaning, and especially by using a large rough brush, after the scraping knife; but this latter has not yet been tried.

It is important that the vulgar prejudice in favor of washing, and even the idea that a large quantity of water is required in the manufactory of beet sugar, should be done away with. The manufacturers may rest assured that the want of water need not be an obstacle to an establishment in any case; and that the quantity absolutely necessary to carry it on is very small indeed.

CHAP. III.

Rasping the Roots.

When M. Achard first attempted to make sugar from the beet root, he begun by drying the roots by steam, then reducing them to paste by a mechanical process, and finally extracting the juice by pressure. It appears that the plan did not succeed, for he abandoned it. In fact, it is not that the sugar undergoes alteration from this drying or baking the roots, but that the pulp resulting from the drying process is so finely divided and slippery, as to render it extremely difficult to separate the juice from it. After many ineffectual attempts, M. Achard at last resorted to the method of rasping raw.

The texture of the beet root is so firm and compact, especially the better varieties, that mere pressure will extract but a small proportion of its juices, which appear to be enclosed in a number of little cells, and it is necessary to break these by rasping, in order to set the juices at liberty.

Other circumstances being equal, the best and most minutely divided roots will yield the greatest quantity of juice with the least pressure; and this constitutes the perfection of rasping.

1. *Rasping machines.*

There are rasping mills of various kinds, but that invented by M. Molard has been considered one of the best in use. The principle is that of a cast-iron cylinder, set round with jagged, saw-like blades, by means of which the roots are cut, torn, and squeezed, till they part with as much of their juice as is possible. It will rasp about 3½ tons of beets in an hour. Price charged by M. Molard on delivery, 1000 francs, (*l.*41 13*s.* 4*d.*) The cylinder alone is worth half this sum, therefore an extra cylinder will add so much more to the cost of the machine.

2. *Operation of Rasping.*

Two laborers are required to work M. Molard's rasp, or sometimes it is worked by one man and two children.

Of all the operations connected with sugar-making, the rasping demands the greatest expedition. As little as possible should be rasped before hand, because the pulp speedily alters by exposure to the air. In fact, this alteration shows itself in a quarter of an hour, or, at most half an hour after rasping. This operation, therefore, should keep pace with that of the press, and not be much in advance of it.

The rasp should be washed at least once a day, and kept as free from dirt as possible, all particles of juice, or pulp, being but the elements of fermentation.

3. *Power for working a Rasp Mill.*

The rasp ought not to be worked by hands, on account of the expense. Horses or oxen are far cheaper, and more powerful agents, but better than these are wind or water powers. The last is decidedly the best, wherever a sufficient fall can be obtained. Of the two first mentioned, the author gives the preference to oxen, as working equally well, and requiring far less costly keep than horses, the pulp from the mill being generally all that is required to keep them—a description of food which horses will not touch.

Mr. Dubrunfaut is inclined to prefer a wind power, as being a more practical and general agent than either water or steam, the former being rarely to be met with in level agricultural districts, and the latter very expensive, except in the immediate vicinity of coal. The society for the encouragement of national industry, aware of the importance of this power, offered a premium of 4000 francs (*l.*166) for the best mill, which premium was awarded to M. de Lamolere. It is intended to be placed in some one of the farm buildings. Cost only 2,400 francs, (*l.*100;) horses or oxen may be attached to it in the absence of wind. This provision is absolutely necessary in a beet root sugar manufactory. A pair of stones may also be added, by means of which the family may be supplied with meal and flour. The only inconvenience attending a wind power is its inequality. This has sometimes been complained of by the raspers.

CHAP. IV.

§Extraction of the Sugar.

The extraction of sugar from the pulp is only to be performed by pressure; and the more powerful this is, the more juice from a given quantity of pulp. However, it is impossible, do what one will, to get it all out; for, even after the greatest pressure, the pulp will still continue moist.

In this operation, as in many others of a like nature, the last particles of matter become so difficult to obtain, as to render it more economical to neglect them altogether. Thus, in pressing the pulp of the beet root, the first juice runs out of itself from the bags, and continues to flow abundantly under the slightest efforts of the press, which the first always are; the quantity then decreases, perhaps in the inverse ratio of the square of the pressure. The remark may appear puerile, but it is highly important, as we shall soon see.

Suppose, for example, that with a known power, a certain quantity of juice is expressed in a given time from a mass of pulp. Suppose, in order to give the press the maximum of effect of which it is capable, that three men are employed for one hour, and that by this means 70 per cent. of syrup from the juice is obtained; it is probable enough, that by applying double the pressure after this, not more than 10 per cent. in addition will be obtained. It then becomes a question whether the quantity thus obtained be worth the cost of producing it.

Mr. Caffer employs a hydraulic press of the power of ten tons, on a surface of about 74 square inches. This was charged in the presence of the author, and from the pulp about 70 per cent. of juice was obtained at the first operation. The power was then doubled, but not more than 8 per cent. of juice was the result, which as before observed, hardly paid for the labor of producing it. However, on this point much depends on the nature of the power used, for it is obvious that wind, water, steam, or even horses and oxen, are less expensive than hand labor, now so commonly resorted to.

It may be imagined that an increase of power in this department would fully answer the required end; but, as has been said before, it is to the rasp that we must look for obtaining the greatest results from the press.

All roots do not give out the same quantity of juice from similar rasping and pressing. Those which are richest in sugar, give far less of it than those of a more watery formation. The operations of extraction being the same, it is only the different proportions of water which influence the quantity of juice afforded by the roots; and as the richness of the juice is ascertained in a manner sufficiently exact by the areometer, we may, by the help of this instrument, pretty nearly determine the quantity of roots which must be rasped to obtain a given body of juice.

Thus, with a good rasp and a powerful press, the following quantities of juice may be obtained proportionably to their areometrical densities:

A	5° . . .	80 per cent.
A	6° . . .	75 "
A	7° . . .	70 "
A	8° . . .	66 "
A	9° . . .	63 "
A	10° . . .	60 "

Supposing that the experiment be tried on twenty-five hectolitres (88 English cubic feet) of juice, weighing 6° by the areometer, it would be necessary to rasp and press 4¼ tons of roots; at 7°, 3½ tons; at 8°, 3⅜ tons; and so on in proportion.

It is important that the operation of pressing should be done quickly; for as little delay as possible should take place between the rasping and pressing; as also between these and the defecation.

§1. OF PRESSES.

A variety of presses have been mentioned as applicable to the manufacture of the beet root sugar, as the screw, the lever, the wedge, the cylinder, and the hydraulic. Of these the last is decidedly the best, as extracting at one operation all the juice that the pulp is capable of affording.

2. *The accompaniments of a Press.*

These accompaniments are the following:

1st. The bags which contain the pulp.

2d. Osier hurdles.

3d. A flat reservoir for preparing the bags in.

4th. A cistern for the juice, with pipes, pump, &c.

1. *The Pulp Bags.*

These bags should be made of strong materials; Russia canvas, for instance. The texture should not be too close, so as to injure the juice from escaping, or they will be in danger of bursting; neither should they be too coarse, or the pulp will squeeze through the meshes. This last inconvenience is, however, of less importance, and of less frequent occurrence than the other.

The size of the bags ought to be regulated by the power of the press; observing always that the surface pressed should never extend beyond the edges of the press itself.

As to the number of bags, that must, of course, depend on the number of working presses, their size, and the charge of pulp which each bag is made to hold. Thus, suppose a press of which the height of the pressing space is three feet three inches, and that each bag shall be so filled, as, with the hurdle, to take up a thickness of 1 1-2 inch, it will then require 25 bags for each charge pressed. Add to these, five others for extra occasions, it will then form what is called a *set* (un jeu de sacs.) If the press is kept at work day and night, three sets will be required; but if only in the day, two sets will be sufficient. They ought to be changed every 12 hours. In some manufactories they use but one set, even if working day and night, but this is by no means desirable. Reckoning five months as the average length of the working season, one may fairly calculate on wearing up a set of bags in each season. The bags ought to be carefully washed in hot water in every twelve hours, in order to keep them as free from impurities as possible.

Hurdles.

The hurdles are made of osier, either peeled or unpeeled. They support the pile of bags under the press, and ought to be very strong and well put together, though not cumbrous. The dimensions will depend on those of the face of the press, at all events, they ought not to be larger. It is needless to describe the construction of these wicker hurdles, further than to say that it resembles that of common hampers in its texture. The number of the hurdles must correspond with that of the bags, *plus* one. It will be advisable to have several sets of them, that they may be renewed every twelve hours. The same care is necessary in washing them frequently, as in the case of the bags; this is done in a flat cistern, of which mention will be made by-and-by, and which also serves to arrange the bags in. For this purpose the cistern is half filled with cold water, into which a certain quantity of unslacked lime is thrown.—Each hurdle is then carefully passed through the liquor, afterwards well rubbed with a brush and then washed in clean water.

Cistern in which the Bags are prepared.

The cistern should be large enough to contain the juice which is separated during the above operation; it ought to be a few inches wider than the hurdles, and a foot or so longer than double the length of the same. Thus supposing the hurdles are 2 feet wide, by 2 1-2 feet long, the cistern should be of the following dimensions.

Breadth	2 1-2 feet
Length	6 1-2 "
Depth	1 "

There should be a cock in one corner of the cistern. This vessel ought to be of stone wood, lined with copper. Its situation in the building is between the rasp and the press; and one of its ends ought to be as near as possible to the cistern for receiving the pulp from the rasp.

For the convenience of working, it ought to be raised a few inches above the level of the floor. It should be surrounded by four stout moveable rails to hang the bags on, when they are arranged.

It is in this cistern that the hurdles are recommended to be washed with the cold lime water. It is needless to say, that after such washing, the dirty water should always be let off, and clean admitted. Cleanliness is indispensable in every stage.

Cistern for the Juice, Pipes, Pumps, &c.

The cistern serves to receive the juice as it comes from the press, and from thence it is transferred immediately to the clarifying copper. It should be provided with suitable pipes, leading from the press into it, and with a pump to throw up its contents into the clarifying copper. This cistern, therefore, should be placed lower than the press; and, like the former should be of stout wood, lined with copper.—The bottom should be slightly inclined to enable the juice to draw to one side, at the lowest part of which is a hollow, in which the end of the pump is inserted, that it may be entirely emptied.

The dimensions depend on the mode of working. If only one defecation take place in 12 hours, the cistern need not be above half the cubical size of the defecaing copper. But if the plan be to work on small charges, so as to make two or three defecations in twelve hours, then the cistern ought to be of equal capacity with the copper. The form is of no importance whatever. The pipes should be of copper, and the whole carefully and frequently washed with lime water, and afterwards well rinsed.

CHAP. V.

Defecation of the Juices.

The juice of the beet, as it first issues from the press, contains all the soluble matter of the root, an analysis of it given (as will appear hereafter,) a mixture of sugar, water, and divers foreign substances. If the juice contained nothing more than sugar in solution with water, it would be easy enough to separate them by the simple process of evaporation, the water goes off in steam, and leaves the sugar behind. What then hinders the extraction of sugar from beet-root juice by the same simple means? The answer is obvious. Because of the foreign matter which the juice brings with it, and which combined or mixed with the sugar, render the evaporation of the water difficult, and its crystallization extremely troublesome, if not impossible. The attention of the manufacturer must, therefore, be directed to the seperation of these particles, and this is accomplished by the process known generally by the name of *defecation.* This is entirely a chemical operation. It consists in finding such agents as will precipitate, in a solid form, all the substances foreign to the sugar, whether in combination with it, or solidified without such combination. It is necessary also that these agents shall not be of a quality to alter the sugar when in contact with them, and that they may be afterwards carried away with the residuum. Whatever be the nature of the agent employed, it ought to be simple, and open to the comprehension of a common workman, and moreover, that it be not of too costly a description.

The only agents used in defecating are, sulphuric acid and lime. Great care is requisite in using them.

It has been elswehere stated, that the re-action of the defecating agent ought to be assisted by heat; and it is on this account that coppers, or boilers, are resorted to. The following section describes this method of defecation.

§. 1. *Boilers for Defecation.*

These vessels ought to be circular, and should be formed of copper. Their dimensions vary with the magnitude of the works, from 228 gallons to 570 gallons; though some prefer a number of a smaller size, say 40 to 50 gallons. It is agreed on all hands, that the interval between the

raspage and the formation of syrup ought to be as short as possible, in order to produce the most profitable results. In fact, the friction occasioned by rasping is necessarily accompanied by a certain portion of heat, which tends to increase the action of the press. Now it is well known, how detrimental the action of heat is to all organic substances, dissolved or suspended in large watery masses. This action is easily discernible between the root and the pulp, and then again between this latter and the expressed juice. The change goes on increasing in proportion to the interval between the rasping and the defecation. The decomposition has often been such as entirely to prevent the formation and separation of the sugar. The copper then should be filled in the shortest possible space of time; but if large masses are acted upon, and, consequently, large coppers made use of, it is essential, in order to charge them rapidly, that a number of rasps and presses should be employed, proportioned to the required despatch of the operation. Thus, to charge a boiler of between 500 and 600 gallons in two hours, which would be a reasonable time enough, it would be necessary to rasp and press during this interval, about four tons of roots. Supposing that a rasp is used which in twelve hours will finish eight tons of roots; supposing also a hydraulic press which is capable of working of 880 lbs. of pulp in one hour, it will require, in order to obtain 570 gallons of juice in two hours three rasping mills and five presses; but if only this quantity is required to be obtained in 12 hours, and, consequently, that there is but one defecating boiler, the three rasps and five presses will only work two hours a day, and remain idle the rest of the time. This is bad. On the other hand, when it is attempted to fill a boiler of 570 gallons by means of only one rasp and one press, the inconvenience will occur of laying the juice before the process of defecation can be begun. Both these evils ought to be avoided.

A variety of reasons are given by M. Dubrunfaut, for preferring boilers of a medium size to those of large dimensions. He considers those of about 90 or 100 gallons as much more convenient than the larger sizes before enumerated. Of course two or more would be required according to the magnitude of the work. Two boilers of these dimensions would readily do the work of one of 570 gallons, and the first cost of them would not be more. As soon as one is brought to the grate of the other; in short, whilst the process of defecating is going on in the one, the other may be left to precipitate its extraneous substances.

A defecating boiler, intended to act by precipitation, ought to be equal in height to its diameter. A fifth of the size absolutely required to contain the juice should be allowed for boiling space: thus, a boiler which would hold 100 gallons, ought to be large enough to *boil* one hundred and twenty gallons in. The boiler ought to be mounted to such height as to allow of the liquor running off clear, by an easy slope into the evaporating boiler. The temperature should never exceed 80° of Reaumur (212° of Fahrenheit.) Thus, admitting that the boiler is 36 inches in height, and the same in diameter, it should have a grate of about the following proportions:—

Length	23 inches.
Breadth	15 "

This grate is of cast iron and composed of 10 bars. The bottom of the boiler is placed about 15 inches above the grate, round which is a flue to enable the flame to circulate to the height of the charge. This flue, at its opening into the chimney may form, in section, a parallelogram of 140 square inches. A boiler on this construction presents to the fire a surface or 413 square feet, and will boil its contents in about three quarters of an hour, with the consumption of 24 lbs. of coal. If wood is burned there must be double the quantity allowed.

§. 5. *Appendages to a Defecating Boiler.*

They are the following:—

1. A thermometer and an areometer.
2. Scales and weights to weigh the lime.
3. A bin for lime, and wooden pails or buckets.
4. A measure either of lead or copper, for sulphuric acid.
5. A wooden instrument to stir up the liquor in the boiler.
6. A plated spoon, to observe the juice with, and an experiment saucer.
7. A skimmer.
8. A filter and funnel.

Areometer and Thermometer.

Beaume's areometer is generally allowed to be the best; it should be provided with a tin case, having a wooden handle. The liquor about to be weighed is drawn up in this tin case which is held by the handle. It is important that the juice should be examined always at the same temperature. It should be taken as it comes from the press, and plunged, by means of the tin case, in water from a well or pump, so as to reduce it to a temperature of 10° of Reaumur (55° of Fahrenheit.) Then insert the areometer; and if all subsequent trials are made with the same precaution, the comparative results will not fail to be correct. In this state the juice varies from 5° to 10° (areometriques) of Benum. If weighed when boiling, a difference will be found of 4° more or less, because then, the heat expanding the liquid, diminishes the specific gravity of it.

The areometer will also be found useful in the evaporation of the juice, to estimate the precise time favorable to clarification. Being of glass and consequently very liable to be broken in the hands of common workmen, it will be necessary to have a number of them at hand.

The thermometer is used in defecation to judge of the state of the temperature, and thence to ascertain the proper time for adding the clarifying agents. The most convenient place to hang it is near the boiler, and it ought to be immersed in the liquor during nearly all the time of the clarification.

Scales and Weights to weigh the lime.

These, it is unnecessary to say more of, than they should be capable of weighing from 5 lbs. to 50 lbs.

(TO BE CONTINUED.)

A smart Yankee—A man on the farm of Mr. T. H. Darling, in Roxbury, Mass. dug in one day last week one hundred bushels of potatoes, assorted them, and put them into barrels, and milked two cows!

IMPORTED SEEDS.

PHILADELPHIA, No. 200 South Ninth-st.
Aug. 12, 1837.

SIR,

My friend near Edinburgh has supported my seed project with great zeal and judgment. I have received from him some of Hickling's prolific Wheat, Chevalier Barley and Perrennial Rye Grass, of the crop of 1836.

He writes under date of June 3d, "All these are "of crop 1836, and fresh thrashed from the straw, "and, except a little mouse dirt, which will do no "ill, are clear of weeds. Indeed, I am satisfied "that the grain is sound and is to vegetate well.— "In consequence of the lateness of the harvest "season here, it is extremely difficult to procure "grain in a state of sufficient dryness for the voy- "age to you. What I have sent on this occasion "will afford your friends an opportunity of ma- "king an experiment on sound seed, of one year's "age, if it answers, and more is wanted; this will "prove the surest way to prevent the grain becom- "ing injured from heating on the passage; still the "order should be sent early, that the proper selec- "tions may be advantageously made. I found "considerable difficulty in getting this kind of "wheat. Permit me to say, I am desirous to be in- "formed of the result, whatever may be the suc- "cess, &c.

Of this small importation, I have set apart for you one bushel of each kind of the seed, as stated in the annexed bill: the expenses on the transaction, including the exchange, is 91.4 0 per cent. although the United States charges no import duty. In fixing the price, I have doubled the prime cost, which leaves 8.60 per cent. to cover trouble and the expenses that will attend it here.

The Wheat will reach you in season for this year's sowing. The Barley is two rowed, and for Spring sowing, it should be put on clean mellow land; this kind of barley is richer and of more value than the four-rowed, whether it is used for malting or pot barley. The Perrennial Rye grass should be sown where it is to remain a number of years; but please to observe it is the common practice in Britain to sow it along with clover; it is there as horse feed, what Timothy is with us. It is with you, by careful and patient experiment, to ascertain its value to the American farmer and grazier; as a pasture it cannot but be useful; domestic animals, like ourselves, are fond of variety, and they are benefitted by change of food.— This grass will prove important to our pasture, on account of its early spring and late fall vegetation, and having the property of maintaining itself in the ground for many years. Some of this grass you may with propriety sow as soon as you receive it amongst the clover sown in 1837; and the remainder should be sown along with the clover and Timothy in 1838. It is desirable to learn what season will suit best for putting it in the ground. I will here take the liberty of submitting to your consideration a practice that may be said is universal in the northern part of Britain in the sowing of wheat; there it was resorted to as a means to prevent the smut in wheat, and it has perfectly answered that purpose. All Seed Wheat is treated after one or other of the following modes:

A brine is prepared by putting common salt

into water until the brine has strength sufficient to float an egg. The wheat by some farmers is put into this pickle, and the light grains are skimmed off and thrown aside; other farmers put it on the barn floor, and sprinkle the brine over it with a bunch of straw or a broom, turning the wheat backward and forward until every grain of the wheat is wetted; this is the most expeditious way, but it is considered somewhat slovenly; the grain is then dried by sifting slacked lime over it, and turning over the mass; it is then sown in the usual way. There is always an anxiety to have all that has been 'pickled' sown on the same day; another process is to employ chamber ley in place of the salt pickle, and the manner of using it is the same as that of the salt brine. I presume that this last material will be most efficacious when it has age sufficient to form volatile alkali. Permit me to recommend the process to your attention. I advise making the experiment; be assured it can do no ill.

In cases where the sowing of wheat has been delayed until late in the season, whether from some necessity, or for the purpose of escaping the depredations of the fly, a portion or all the manure should be spread over the surface of the land after the wheat has been sown: this portion of the manure becomes the nurser and protector of the young plants, whose roots are at that time very tender, and so short that they are acted on by the frost before they have had time to reach the ploughed in manure; and consequently this ploughed in manure is of no service to them, and they perish from hunger and cold. I am not certain that it is now your wish to get this seed, and for that reason request you to favor me with your instructions by the return mail, if possible, so that I may have an opportunity of otherwise disposing of it this season. I have to request of you to remit the amount.

I think you will be pleased with the superior quality of the Barley and Rye Grass. The Wheat is excellent as respects size and form, but its skin is not fine; it bears evident marks of having grown in a wet season. I solicit for the experiment your careful attention; the result may not prove successful under some circumstances, while in other cases it may do well; at all events it merits a careful trial.

Very respectfully,
I am your Most Obedient,
JAMES RONALDSON.

As a guide to those who may feel disposed to avail themselves of the patrioticeffort of Mr. Ronaldson, we annex the following letter to ourself, by which it will be perceived that Mr. Ronaldson has already disposed of all the wheat imported by him, but has still on hand a small portion of Chevalier Barley and Perrenial Rye Grass.

Phila. Oct. 3rd, 1837.

Sir:—Yours of the 27th was received yesterday; I can supply you with half a bushel of wheat and half a bushel of rye grass as per statement, this finishes my wheat; there remains a few bushels of barley and rye grass.

I shall expect your directions by the return mail.

Yours, respectfully,
JAMES RONALDSON.

Mr. E. P. Roberts.

BREAKING UP GRASS LANDS.

The Code of Agriculture has some general remarks on this subject, which we insert as the experience of the best agriculturists.

If the land be wet, it is advisable to drain it completlely, previous to its being broken up

Land that has been long in pasture, does not require dung during the first course of crops that is taken after being broken up, but the application of calcareous manure is always in such cases expedient. Sometimes lime is spread on the ground before it is ploughed; at other times, marl and chalk have been used for the same purpose, with great advantage.—The land thence derives additional strength and vigor; the succeeding crops are much improved; the soil is commonly so softened in its texture, that it may be ploughed with half the strength that would otherwise be necessary, and whenever it is restored to grass the herbage is abundant.

Wherever the soil is not too shallow, nor of a friable nature, or when the turf cannot soon be rolled, if land is to be broken up from old pasture, paring and burning is the proper system to be adopted. In this way good tilth is speedily procured; the damage that might otherwise be sustained by the grub, the wire worm and other insects, is prevented, while the soil receives a stimulus, which ensures an abundant crop.

When paring and burning, from any circumstances, cannot take place, the land may be trenched, or double-ploughed. This is effected by means of two ploughs, following each other, the first plough takes off a thin surface of about three inches, and the second going deeper in the same place, covering the surface sod with fine mould; both furrows not exceeding the thickness of the vegetable mould, or other good soil.

If the land is ploughed with one furrow, the operation ought to be performed before winter, that it may receive the benefit of the succeeding frosts, by which the success of the future operations will not only be promoted, but most of the insects lodged in the soil will be destroyed.

When one furrow alone is taken, the best size is four inches and a half deep, by eight or nine wide. The strain on horses, in ploughing clay land, is mostly from the depth.

The rotation of crops to be adopted, when grass lands are broken up, must partly depend upon the soil, and partly on the manner in which it is prepared for cultivation. As a general principle, however, it may be laid down, that unless by the course of cropping to be pursued, the bad grasses and other plants indigenous in the soil, are extirpated, they will, when the land is again laid down to grass, increase and prevail with more rapidity and effect, than the seeds chosen by the farmer; and the consequence must be, a heavy disappointment in the future crops of grass, perhaps solely, or at least principally attributable, to a previously defective management.

The *Northampton Silk Company*, incorporated with a capital of $150,000, promises to do much for the advancement of the Silk business, as well as for the prosperity of this town. We are glad to learn that the Factory building, one hundred feet long and four stories high, near the Oil Mill, has been recommenced, and will be pushed ahead with great rapidity. It is intended to have the walls up this fall and perhaps occupied with silk machinery during the approaching winter. Mr. Samuel Whitmarsh surely is worthy of praise for the untiring perseverance he has exhibited, in pushing forward this important enterprise, in opposition to the obstacles which have constantly beset him. Not merely have the unpropitious times discouraged, but the incessant prediction of croakers, that his plans would not succeed, have constantly assailed Mr. Whitmarsh. All new enterprises meet with the same hindrances, and if energetic men stopped to heed all the wise admonitions of the sceptical, what would be accomplished? Mr. Thomas Whitmarsh and brother have purchased the old carriage shop near South street bridge, and are preparing to fill it with machinery for weaving ribbons and sewing silk. A steam engine will propel the machinery, and we predict, one year hence, more spindles and silk looms will be in operation in this town, than in any other two places in the Union.—*Northampton Courier.*

The Nantucket Silk Men—New England Silk Manufacture—The display of silks at the Boston Fair is truly magnificent, and reflecting the highest honor on the industry and enterprize of our countrymen in this culture and manufacture—besides numerous specimens of sewing silk and twist of various colors and fineness, there are from the Nantucket Company watered and plain drab silk pantaloons, handkerchiefs with printed borders, with high colored figures, and printed silk for gowns. Truly this last is a triumph for the whalemen, who can alike wield the sturdy harpoon on the mountain billows against the monster of the deep—or turn their hand to the most delicate process of domestic manufacture—who can with like facility enroll upon the windlass the ponderous cable or wind upon the fragile spool the gossamer and almost imperceptibie filaments of the silken cocoon. The Essex Co. presented some beautifully printed patterns of handkerchiefs on India silks. Finest, softest, and highest finished silk cloth and handkerchiefs, from Adam Brooks, of South Scituate, and bleached and printed by Halliday, of Lynn, equal to the best specimens of the French and Swiss. Sewing silk of various colors, from J. Stevens of Newburyport. A basket of cocoons from J. S. Sullivan, of Quincy, Mass. fed on the Germantown mulberry.—*N. Y. Star.*

Horticultural despatch—There is at the seed store of Mr. Thorburn, in John street, a turnip, raised (by N. Smith Prentiss, esq. near Princeton) the present autumn from seed of *this summer's* saving—it is of the red top variety, called the *strap leaved*, and from its quick growth must be a desideratum. The seed was procured of Mr. T. who first introduced it to our New York agriculturists; it will prove itself one of our finest table varieties. The seed was sown the early part of August.—*N. Y. Star.*

CONTENTS OF THIS NUMBER.

Large Beets—winter cattle feed; silk in Florida—Frosts—Buckwheat in Delaware—notice of a crop of oats; fine prospect for buckwheat cakes—facts relating to the silk culture—manufacture of beet root sugar—imported seeds—breaking up grass lands—silk in Northampton—do in Nantucket—horticultural despatch—advertisements—prices current.

BALTIMORE PRODUCE MARKET.

☞ *These Prices are carefully corrected every Mo*

	PER	FROM	TO
Beans, white field,	bushel.	1 25	—
Cattle, on the hoof,	100lbs	6 00	7 00
Corn, yellow	bushel	96	98
White,	"	90	92
Cotton, Virginia,	pound	11	—
North Carolina,	"	—	—
Upland,	"	10	12
Louisiana —— Alabama	"	—	—
Feathers,	pound.	50	—
Flaxseed,	bushel.	1 37	1 50
Flour & Meal—Best wh. wh't fam	barrel.	10 50	11 50
Do. do. baker's	"	—	—
Super How. st. from stores	"	8 50	—
" " wagon price,	"	8 25	—
City Mills, super	"	8 25	8 50
" extra	"	8 50	—
Susquehanna,	"	—	—
Rye,	"	—	—
Kiln-dried Meal, in hhds.	hhd.	—	—
do. in bbls.	bbl.	—	—
Grass Seeds, wholes. red Clover,	bushel.	6 50	7 50
Kentucky blue	"	2 50	3 00
Timothy (herds of the north)	"	3 50	4 00
Orchard,	"	2 50	3 00
Tall meadow Oat,	"	—	3 00
Herds, or red top,	"	1 00	1 25
Hay, in bulk,	ton.	12 00	15 00
Hemp, country, dew rotted,	pound.	6	8
" water rotted,	"	7	
Hogs, on the hoof,	100lb.	7 00	—
Slaughtered,	"	—	—
Hops—first sort,	pound.	9	—
second,	"	7	—
refuse,	"	5	—
Lime,	bushel.	32	35
Mustard Seed, Domestic, —; blk.	"	3 50	4 00
Oats,	"	33	32
Peas, red eye,	bushel.	—	—
Black eye,	"	75	1 00
Lady,	"	1 00	—
Plaster Paris, in the stone, cargo,	ton.	—	3 50
Ground,	barrel.	1 62	—
Palma Christa Bean,	bushel.	—	—
Rags,	pound.	3	4
Rye,	bushel.	82	85
Susquehannah,	"	—	none
Tobacco, crop, common,	100 lbs	2 50	3 50
" brown and red,	"	4 00	6 00
" fine red,	"	8 00	10 00
" wrappery, suitable for segars,	"	10 00	20 00
" yellow and red,	"	8 00	10 00
" good yellow,	"	8 00	12 00
" fine yellow,	"	12 00	16 00
Seconds, as in quality,	"	—	—
" ground leaf,	"	—	—
Virginia,	"	4 50	9 00
Rappahannock,	"	—	—
Kentucky,	"	4 00	8 00
Wheat, white,	bushel.	1 80	1 85
Red, best	"	1 70	1 75
Maryland inferior	"	1 10	1 40
Whiskey, 1st pf. in bbls	gallon.	39	40
" in hhds	"	—	37
" wagon price,	"	bbls	30
Wagon Freights, to Pittsburgh,	100 lbs	1 50	—
To Wheeling,	"	1 75	—
		washed.	unwash
Wool, Prime & Saxon Fleeces,	pound.	40 to 50	20 22
Full Merino,	"	35 40	18 20
Three fourths Merino,	"	30 35	18 20
One half do.	"	25 30	18 20
Common & one fourth Meri.	"	25 30	18 20
Pulled,	"	28 30	18 20

MORUS MULTICAULIS TREES.

The subscriber has from 25,000, to 30,000 Morus Multicaulis trees now growing at his residence, with roots of 1, 2, and 3 years old, which will be ready for sale this fall, and which he will sell on moderate terms

EDWARD P. ROBERTS.

Baltimore, Md.

BALTIMORE PROVISION MARKET.

	PER.	FROM.	TO.
Apples,	barrel.	—	—
Bacon, hams, new, Balt. cured	pound.	13	13½
Shoulders, do	"	10½	10½
Middlings, do	"	do	do
Assorted, country,	"	9	9½
Butter, printed, in lbs. & half lbs.	"	20	25
Roll,	"	—	—
Cider,	barrel.	—	—
Calves, three to six weeks old	each.	5 00	6 00
Cows, new milch,	"	25 00	40 00
Dry,	"	9 00	12 00
Corn Meal, for family use,	100lbs.	—	—
Chop Rye,	"	—	1 75
Eggs,	dozen.	18	—
Fish, Shad, No. 1, Susquehanna,	barrel.	6 75	—
No. 2,	"	6 50	—
Herrings, salted, No. 1,	"	2 75	2 87
Mackerel, No. 1, ——No. 2	"	9 00	10 00
No. 3,	"	4 75	—
Cod, salted,	cwt.	3 00	3 25
Lard,	pound.	9	10

BANK NOTE TABLE.

Corrected for the Farmer & Gardener, by Samuel Winchester, Lottery & Exchange Broker, No. 94, corner of Baltimore and North streets.

U. S. Bank,	par	VIRGINIA.	
Branch at Baltimore,	do	Farmers Bank of Virgi.	1¼a1½
Other Branches,	do	Bank of Virginia,	do
MARYLAND.		Branch at Fredericksburg	do
Banks in Baltimore,	par	Petersburg,	½
Hagerstown,	½a	Norfolk,	1¼a1½
Frederick,	do	Winchester,	½
Westminster,	do	Lynchburg,	1¼a1½
Farmers' Bank of Mary'd,	do	Danville,	do
Do. payable at Easton,	1	Bank of the Valley,	¼
Salisbury,	2 per ct. dis.	Branch at Romney,	do
Cumberland,	3	Do. Charlestown,	do
Millington,	do	Do. Leesburg,	1¼
DISTRICT.		Wheeling Banks,	3a3½
Washington, Georgetown, Alexandria, Banks,	¼p.c.	Ohio Banks, generally	6a7
		New Jersey Banks gen.	5
PENNSYLVANIA.		New York City,	¼
Philadelphia,	½a	New York State,	3a4
Chambersburg,	1	Massachusetts,	3a3½
Gettysburg	do	Connecticut,	3a3¼
Pittsburg,	3½	New Hampshire,	3a3½
York,	1	Maine,	3a3½
Other Pennsylvania Bks.	4	Rhode Island,	3a3½
Delaware [under $5]	6	North Carolina,	5
Do. [over 5]	2	South Carolina,	8a10
Michigan Banks,	10	Georgia,	do
Canadian do.	10	New Orleans,	12

A HALF DURHAM BULL CALF—FOR SALE.

The subscriber has a beautiful red and white bull calf, HALF DURHAM, being got by a full bred Durham bull, which he sold last December for $300, and out of a very large Cow owned by him. The cow when he bought her was represented as half Durham, but as she has no pedigree he designates her offspring as half Durham. His sire was a noble animal, out of an imported cow, and got in England by one of the Colling's bulls. To any gentleman who may desire an improving cross, and who may be averse to give the higher price of the full bred Durhams, this calf offers an excellent opportunity, as he has all the fine points of the latter, and would be taken by an incompotent judge for a full bred. His price is $30—his age 5 weeks old.

EDWD. P. ROBERTS,
oc 3 Baltimore, Md.

A DURHAM BULL FOR SALE.

UNCAS, a beautiful white Bull of the improved Durham short-horn breed, 3 years old, will be sold a bargain, $250, as his owner, desirous of changing his cross-bought another bull at the sale of Mr. Whittaker's stock. Uncas has a pedigree tracing to the herd-book, and will be warranted pure.

☞ Applications by letter to be post-paid. Address
s 29 EDWD. P. ROBERTS, Baltimore, Md.

KENTUCKY BLUE GRASS SEED.

Just received from the South West a lot of Kentucky Blue Grass Seed This grass is particularly desirable for pastures and for hay, and forming fine green or rather blue lawns, &c.

R. SINCLAIR, Jr. & Co.,
Light, near Pratt-street, Balt.
Sept. 10. 3t.

BAKEWELL RAMS.

For sale 6 Bakewell Rams, one of which was imported. The prices are as follows, viz: the IMPORTED Ram $150, No. 1. of the native bred, $100—No. 2, $75; No. 3, $50; Nos. 4 and 5, 35 dollars each. The five latter rams are one year old, in fine condition, and beautiful specimens of their peculiar and much admired long-wooled breed. As a proof of their superior quality it may be well to state that two brothers of the latter five were sold at the great Whitaker sale recently held in Philadelphia, for $100 each, and a third one since for the same money at private sale. Applications to be addressed in writing to

JOHN BARNEY,
Philadelphia.
Oct. 10. 3t.

DURHAM & AYRSHIRE CATTLE.

The subscriber is authorised to sell the following superior Cattle:

Montezuma, an improved Durham short-horned bull, a light, or fashionable roan. He was *imported* by Rezin D Shepherd, Esq. in March, 1835, for whom he was purchased from Mr. Page in the county of Durham, England. Montezuma was got by *Wharfingdale*, dam by *Magnumbonum*, g. d. by Priam: he was calved 30th March, 1833.

As an evidence of his superior powers in the perpetuation of his species, we would state, that he is the sire of *Nancy Thompson* and *Hampton*, calves now owned by Mr. George Beltzhoover. Nancy Thompson, was calved in March last, and now weighs 527 lbs. Hampton was calved 4th May last, and how weighs 380 lbs. Indeed all the calves of Montezuma, which we have seen, are remarkable for their extraordinary size and fine points:

A *short horn improved Durham bull* calf, 3 months old, got by Neptune, he by Orozimbo out of a full-blooded Durham heifer, 2 years old, the dam of which was imported by R. D. Shepherd, Esq. and sold to the Hon. Hy. Clay.

6 *Ayrshire* calves, 3 males and 3 females, from 2 to 8 months old. These calves are all out of cows imported by R. D. Shepherd, Esq. selected by his Agent from the best herd in the kingdom of Great Britain. The mothers of two of those calves, with their first calf, respectively, gave 20 and 24 qts of milk per day when fresh.

The Ayrshire breed of Cattle is justly considered the best dairy cows in Scotland, they are of medium size, hardy of constitution, docile in disposition, easily kept, and deep milkers, yielding as much *milk* and *butter*, weight considered, as any other variety.

Letters *post paid* to the subscriber will meet with prompt attention. EDWARD P. ROBERTS,
Editor Farmer and Gardener, Baltimore, Md.
sep 12 4t

TO PRINTERS.

FOR SALE—A first rate SMITH PRESS, the platen 24 by 36 inches, which will work a form the size of the daily papers in Baltimore. It has the latest improvements of the patentee, has been in use a short time, and is as good as new. Any printer requiring a press of this size, cannot be better supplied than by the purchase of this. It can be examined while in operation, and any one at a distance disposed to purchase, is requested to select some printer to inspect it. The original cost and expenses deliverable to us, was about $300—It will be sold together with the roller frames, stocks, &c. complete as it now stands in operation, for $275, on a credit of three months, for an approved note.

Apply to SANDS & NEILSON,
Office of "Farmer & Gardener,"
jy 25 4t Corner of Charles & Market sts. Baltimore.

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